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A REVIEW OF THE GENUS *HOPLISOIDES* GRIBODO (HYMENOPTERA: SPHECIDAE: GORYTINI) IN NORTH AMERICA

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Abstract.—The 30 species of *Hoplisoides* known from the continent of North America and its associated islands are described and keyed. Pertinent illustrations are given. Four new species are presented: ***H. elotae*** (Sinaloa, Mexico), ***H. niger*** (Puerto Rico), ***H. subcostalis*** (Panama), and ***H. parkeri*** (Mexico). **New synonyms** are: *knabi* Rohwer 1911 provisionally = *costalis* Cresson 1872; *maculipennis* Cameron 1890 = *iridipennis* F. Smith 1856; *umbonicida* Pate 1941 = *vespoides* F. Smith 1873. **New status** are: *hypenetes* Handlirsch 1895 as synonym of *denticulatus* Packard 1867; *birkmanni* Baker 1907 as synonym of *nebulosus* Packard 1867; *pygidialis* W. Fox 1896 as full species, not subspecies of *costalis* Cresson 1872.

Key Words: *Hoplisoides,* Sphecidae, Gorytini, North America, key

Hoplisoides Gribodo is one of the largest genera in the tribe Gorytini with about 70 species in the World. The species of North America were keyed by W. J. Fox (1896), who recognized 9, but a little over 100 years later 30 are now known. Among the rather numerous characters of the tribe Gorytini, the following combination will identify *Hoplisoides:* forewing pictured, hindwing media diverging close to crossvein cu-a, omaulus and acetabula present, sternaulus at least partly present, propodeum punctate but without a spiracular (stigmatal) sulcus, propodeal enclosure usually with at least traces of longitudinal carinula, T-I not petiolate or pedunculate, male sterna V–VI with concealed hairbrushes.

Material studied has been about 1,000 specimens, including types, in some 30 museums in America and Europe. Muséums are listed in the Acknowledgments. This is in addition to the more than 1,500 specimens in the Bohart Museum, which has the largest and most complete collection of North American species.

Hoplisoides wasps are ground-nesting, and provision their nests with Cicadellidae or Membracidae. A detailed summary of biology was given by Bohart and Menke (1976:520).

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The following museums and their managers have been most helpful in allowing examination of their holdings, and have kindly sent types when requested. The museums are identified by the pertinent city in capitals. Many museums not listed have sent specimens for identification which have helped fill out distributional data.

Academie de Sciences de Cuba ..... HAVANA(I)
Academy of Natural Sciences ..... PHILADELPHIA
American Museum of Natural History ..... NEW YORK
California Academy of Sciences ..... SAN FRANCISCO
Canadian National Collection ..... OTTAWA

Cornell University ..... ITHACA
Entomologisches Institut,
Technische Höchschule ..... ZURICH
Gundlach Collection,
Cuba ..... HAVANA(II)
Humboldt Museum ..... BERLIN
Laval University Provancher
Collection ..... QUEBEC
Los Angeles County
Museum ..... LOS ANGELES
Museum of Comparative
Zoology, Harvard ..... CAMBRIDGE
Museum d'Histoire Naturelle,
Switzerland ..... GENEVA
National Museum of
Natural History ..... WASHINGTON
Natural History Museum,
U.K. ..... LONDON
Naturhistorisches Museum of
Austria ..... VIENNA
Utah State University ..... LOGAN
Universitets Zoologiske
Museum ..... COPENHAGEN
University of California
Bohart Museum ..... DAVIS
University of California
Essig Museum ..... BERKELEY
University of Halle, Germany ... HALLE
University of Lund, Sweden ..... LUND
University of Nebraska State
Museum ..... LINCOLN
University of California
Riverside Museum ..... RIVERSIDE

In the following key an important character is the nature of the metapleuron, its shape, size of its lower pit (called anteroventral metapleural pit by Bohart and Menke 1976:fig 3), and its punctation (or lack thereof). The abbreviations MOD (median ocellus diameter), F (flagellomere), T (tergum), S (sternum), and PD (puncture diameter) have been used in the keys and descriptions below. An interesting condition of most *Hoplisoides* males, and the result of considerable synonymy, is the presence of only 6 visible terga, instead of usual 7 in most gorytins, followed by an exserted S-VIII as a pseudosting. Females are easily distinguished by having a pygidial plate on T-VI, and 12 antennal segments instead of 13 in the male. In general the terminology of characters follows that described in Bohart and Menke 1976.

Key to the Species of *Hoplisoides* in North America

Males

1. Mesopleuron impunctate or nearly so (sometimes with a few very fine punctures) 2
– Mesopleuron punctate 6
2. T-III unbanded 3
– T-III banded with white or yellow 4
3. Markings yellow, propodeal enclosure with carinulae incomplete posteriorly; Cuba .... *ater* (Gmelin)
– Markings white, propodeal enclosure with complete carinulae; Hispaniola .... *alaya* (Pate)
4. Propodeal enclosure carinulate, scutum and propodeum (posteriorly) plainly punctate ... *iridipennis* (F. Smith)
– Propodeal enclosure essentially smooth, propodeal punctation various 5
5. Scutum well punctured, propodeum black and with obvious punctures posteriorly, subdiscoidal and second discoidal cells clear (based on female characters); se. U.S. and Argentina ..... *semipunctatus* (Taschenberg)
– Scutum and posteriorly red propodeum with microscopically fine punctures, subdiscoidal and second discoidal cells stained brownish ..... *glabratus* R. Bohart
6. S-III to V and venter of mesothorax with dense, white, woolly pubescence, sometimes bloomlike, S-V often with a tooth or carina visible laterally 7
– S-III to V without such pubescence, no tooth on S-V 12
7. S-V with at most a lateral denticle 8
– S-V with a definitely raised carina laterally 10
8. Metapleural lower pit about as large as midocellus, F-VI–VIII strongly nodose beneath ..... *floridicus* R. Bohart
– Metapleural lower pit smaller than midocellus, F-VI–VIII various 9
9. F-VI to VII strongly thickened and nodose beneath, metapleuron usually at least partly red, pubescence of sterna bloomlike ..... *cazieri* R. Bohart
– F-VI–VII a little thickened beneath, but not nodose; metapleuron all black; pubescence of sterna 1.0 MOD or more long laterally .... *denticulatus* (Packard)

10. Scutal punctures fine, mostly with diameters less than 0.25 MOD, hindfemur mostly yellow outwardly, metanotum practically impunctate ..... *projectus* R. Bohart
– Scutal punctures moderate, many with diameters equal to 0.5 MOD, hindfemur either extensively brown or red outwardly 11
11. T-V carina rounded across top, hindfemur mostly red outwardly ..... *confertus* (W. Fox)
– T-V carina flat across top, hindfemur mostly brown outwardly ..... *carinatus* R. Bohart
12. Metapleural lower pit smaller than midocellus 13
– Metapleural lower pit about as large as or larger than midocellus 20
13. Mesopleuron dentate below, metapleuron at middle narrower than 1.0 MOD, body extensively red and yellow 14
– Mesopleuron not dentate below, metapleuron at middle broader than 1.0 MOD, body various 15
14. Propodeum in posterior view red and yellow ..... *diversus* (W. Fox)
– Propodeum in posterior view all or nearly all red ..... *dentatus* (W. Fox)
15. Forewing with black band from wing base to apex of marginal cell, propodeal area just beyond metapleuron with series of diagonal ridges (based on female); Panama ..... *subcostalis* R. Bohart
– Forewing without a back band from base of wing to apex of marginal cell, propodeal area just beyond metapleuron irregularly sculptured or punctate 16
16. F-I at least 2× as long as greatest breadth, metapleuron punctate, subdiscoidal and second discoidal cells each with an apical discrete cloud 17
– F-I 1.2 to 1.7× as long as greatest breadth, metapleuron not punctate, above cells not clouded 18
17. T-III–IV all or mostly dark, frons with punctation partly obscured by silvery pubescence ..... *spendidulus* (Bradley)
– T-III–IV broadly yellow-banded (as on II, V, & VI), frons with dense punctation not obscured by pubescence; Mexico ..... *elotae* R. Bohart
18. Propodeum usually and legs extensively red, T-VII–VIII normally visible, metapleuron tapering to a point below ..... *tricolor* (Cresson)
– Propodeum and legs not extensively red, spinelike S-VIII protruding from end of abdomen, metapleuron below middle mostly broader than 1.0 MOD 19
19. Last few terga broadly black, yellow bands narrow ..... *costalis* (Packard)
– Last few terga broadly yellow ..... *pygidialis* (W. Fox)
20. T-I–II–IV yellow banded, T-III–V–VI black, Cuba 21
– T-III yellow banded 22
21. Propodeal enclosure with carinulae quite weak or absent posteriorly; Cuba ..... *insularis* (Cresson)
– Propodeal enclosure with carinulae all well developed; Cuba ..... *xerophilus* Alayo
22. Scutum and mesopleuron with off-silvery or pale golden pubescence, T-II unusually broad, clypeus black ..... *vespoides* (F. Smith)
– Scutum and mesopleuron without unusual pubescence, clypeus not usually all black ... 23
23. Front and middle tibiae entirely yellow, pedicel bright yellow in front, yellow band of S-II mostly impunctate; Cuba ..... *jibacoa* Alayo
– Front and middle tibiae not all yellow, pedicel not bright yellow dorsally, yellow band of S-II plainly punctate 24
24. Clypeus transversely bent toward apex (beveled) 25
– Clypeus not transversely bent toward apex 26
25. Clypeus sharply beveled all across, propodeal area alongside enclosure closely punctate ..... *hamatus* (Handlirsch)
– Clypeus rounded toward middle, propodeal area alongside enclosure somewhat polished, a few punctures ..... *punctifrons* (Cameron)
26. T-I–II both coarsely and rather closely punctured, PD = ⅓–½ MOD .... *parkeri* R. Bohart
– T-I–II or at least T-I not closely and coarsely punctured, PD = ¼ MOD 27
27. T-III to VI all or nearly all black, propodeum (except enclosure) mostly red ..... *placidus* (F. Smith)
– T-III–IV (at least) yellow banded, propodeum not red 28
28. Submarginal cell I, discoidal cell I, and apex of medial cell all lightly clouded ..... *placidus nebulosus* (Packard)
– Submarginal cell 1, discoidal cell 1, and medial cell practically clear (Mexican specimens usually with black lower edge on clypeus) ..... *spilopterus* (Handlirsch)

Females

1. Mesopleuron impunctate or with only microscopic punctures 2
– Mesopleuron punctate 7
2. T-III unbanded 3
– T-III banded with white or yellow, at least laterally 5
3. Thorax and abdomen almost all black, T-II with traces of an apical yellow band; Puerto Rico ..... *niger* R. Bohart
– Thorax and abdomen not nearly all black, T-I and T-IV with distinct bands 4

4. Markings yellow, propodeal enclosure not carinulate posteriorly; Cuba . . . . . *ater* (Gmelin)
– Markings white, propodeal enclosure completely carinulate; Hispaniola . . . . . *alaya* (Pate)
5. Propodeal enclosure completely carinulate . . . . . *iridipennis* (Cameron)
– Propodeal enclosure smooth 6
6. Antenna all yellow, frons mostly yellow, metanotum not yellow . . . . *glabratus* R. Bohart
– Antenna black above, frons with yellow laterally, metanotum yellow; se U.S., Argentina . . . . . *semipunctatus* (Taschenberg)
7. Metapleural lower pit smaller than midocellus 8
– Metapleural lower pit about as large as or larger than midocellus 19
8. F-I 3× or 4× as long as greatest breadth . . 9
– F-I 2× to 2.7 times as long as greatest breadth 12
9. F-I 3× as long as greatest breadth, inner eye margins nearly parallel below, no continuous yellow or white band across summit of head, subdiscoidal cell without a discrete apical spot 10
– F-I 4× as long as greatest breadth, inner eye margins slanting slightly inward below, yellow band on summit of head continuous all across, subdiscoidal cell with a discrete apical spot 11
10. Body mostly red, propodeum red in posterior view, tergal yellow bands present on I–III (at most) . . . . . *dentatus* (W. Fox)
– Body red and yellow, propodeum mostly yellow in posterior view, tergal yellow bands on I–V (at least) . . . . . *diversus* (W. Fox)
11. Legs mostly brown; Mexico . . *elotae* R. Bohart
– Legs mostly red . . . . . *spendidulus* (Bradley)
12. Metapleuron broader than 1.0 MOD above *but* tapering to a point below, scutum and mesopleuron mostly red . . . . *tricolor* (Cresson)
– Metapleuron broader than 1.0 MOD for most of its length, scutum and mesopleuron various 13
13. Scutum and mesopleuron mostly red, terga mostly yellow 14
– Scutum and mesopleuron mostly black, terga various 15
14. Pygidium all red or dark red . . . . . *confertus* (W. Fox)
– Pygidium yellow or at least basally yellow . . . . . *carinatus* R. Bohart
15. T-VI densely punctured, punctured part about 1.3× as long as broad at base 16
– T-VI punctured part not densely so, about 1.9–2.2× as long as broad at base 17
16. Legs mostly red, mesopleural punctures fine . . . . . *projectus* R. Bohart
– Legs mostly brown, mesopleural punctures moderate . . . . . *cazieri* R. Bohart
17. Forewing with black band along costal margin to end of marginal cell, hindwing with dark cloud in basal two-thirds of medial cell; Panama . . . . . *subcostalis* R. Bohart
– Forewing without black costal band, hindwing not clouded 18
18. T-III to V with narrow yellow bands, flagellum partly reddish beneath, pygidial carinae nearly parallel above, (T-I rarely all black) . . . . . *costalis* (Cresson)
– T-III to V broadly yellow, flagellum extensively pale beneath, pygidial carinae gradually broadening above . . . . . *pygidialis* (W. Fox)
19. T-III–IV nearly all dark, T-V–VI mostly yellow, propodeal enclosure with longitudinal carinulae disappearing posteriorly; Cuba . . . . . *jibacoa* (Alayo)
– Terga not marked as above, propodeal enclosure carinulae complete 20
20. Subdiscoidal cell with discrete black spot apically 21
– Subdiscoidal cell without discrete spot apically 24
21. T-III all black, or nearly so, rarely with pale marks on T-III–IV but metapleural lower pit round 22
– T-III to T-V usually pale banded, metapleural lower pit oval 23
22. T-II black, propodeum mostly dark red; Cuba . . . . . *jaumei* (Alayo)
– T-II pale banded, propodeum mostly orange red . . . . . *punctifrons* (Cameron)
23. Propodeum black . . . . . *hamatus* (Handlirsch)
– Propodeum (except enclosure) mostly red . . . . . *spilopterus* (Handlirsch)
24. Pygidium with lateral carinae somewhat bent toward middle, T-II moderately punctate, many punctures more than 1.5 PD apart or more, T-VI not mostly yellow 25
– Pygidium with lateral carinae evenly curved, other characters various 26
25. T-III to VI all or practically all black, propodeum (except enclosure) largely red . . . . . *placidus* (F. Smith)
– T-III to T-V with apical yellow bands, propodeum often all black . . . . . *placidus nebulosus* (Packard)
26. T-III black or nearly so (rarely partly banded in *xerophilus*) 27
– T-III banded 28
27. Propodeal enclosure weakly carinulate, becoming polished posteriorly, terga weakly punctured; Cuba . . . . . *insularis* (Cresson)
– Propodeal enclosure completely carinulate, terga well punctured; Cuba . . . *xerophilus* Alayo
28. Scutum and mesopleuron with off-silvery or

golden pubescence, sometimes bloomlike, omaulus not continuous with sternaulus . . . . . *vespoides* (F. Smith)

– Scutum and mesopleuron without such pubescence, omaulus smoothly continuous with sternaulus 29

29. T-I–II coarsely and rather closely punctured, punctures averaging about 1.0 PD apart, T-VI–VII mostly or all yellow, submarginal cell 3 clouded over forward one-third . . . . . *parkeri* R. Bohart

– T-I not evenly and coarsely punctured, T-II moderately so, other characters various . . . 30

30. Mesopleural punctures adjacent to metapleuron medium to fine, T-II black before apical band, submarginal cell 3 clouded over about half . . . . . *denticulatus* (Packard)

– Mesopleural punctures adjacent to metapleuron coarse as on rest of mesopleuron, T-II often extensively orange red in front of apical yellow band, submarginal cell 3 clouded over at least two-thirds . . . . . *floridicus* R. Bohart

Hoplisoides alaya (Pate)

Psammaecius alaya Pate 1947:96. Holotype ♂, "San Domingo" (PHILADELPHIA).

Among the 6 species with a nearly impunctate mesopleuron, *alaya* is the only one with a combination of white bands on I-II–IV, and complete carinulae on the propodeal enclosure. This small species has the metapleural lower pit larger than the midocellus, and T-II is finely punctate. T-V is distinctly punctured.

The 5 ♂ and 4 ♀ I have seen were all collected on Hispaniola.

Hoplisoides ater (Gmelin)

Crabro tricinctus Fabricius 1775:375. "America". Lectotype ♂ designated by van der Vecht 1961:49 (COPENHAGEN).

Vespa ater Gmelin 1790. New name for *Crabro tricinctus* Fabricius 1775:375, preoccupied by *Vespa tricincta* Fabricius 1775:363 (now in *Sphecius*).

Vespa tristrigata Fabricius 1794:459. Lectotype ♀, "American Islands" designated by van der Vecht 1961:49.

Lestiphorus behni Dahlbom 1842:11, Holotype ♀ (LUND). Synonymy by Dahlbom 1845:483.

Harpactus scitulus Cresson 1865:147. Holotype ♀, Cuba (HAVANA-II). Synonymy by Dalla Torre 1897:555.

Although related to *alaya*, the yellow markings and posteriorly incomplete carinae of the propodeal enclosure are differentiating. I know the species only from 4 ♂ and 3 ♀ from Cuba. The female abdomen was figured by Alayo (1969). I have seen the lectotype in the Copenhagen Collection.

Hoplisoides carinatus R. Bohart

Hoplisoides carinatus R. Bohart 1968:287. Holotype ♂, Madera Canyon, Santa Cruz Co., Arizona (DAVIS).

This species is one of six that have woolly pubescence on S-III to VI of males. Three of these have an obliquely placed carina laterally on S-V. These are *carinatus, confertus,* and *projectus.* In *confertus* the carina is relatively high (about 2.0 MOD), in *projectus* lower (about 1.5 MOD) and in *carinatus* lowest (about 1.0 MOD). All three have the metapleural lower pit smaller than a midocellus, and the male flagellum only moderately swollen on F-VI–VII. In *carinatus* the punctures of the frons below the ocelli are larger, deeper, and closer than those of the other two species. Characters given for the females in the key hold fairly well.

Distribution records are from southern California (Temecula, Riverside, Big Pine), southern Arizona (Phoenix, Tucson, Pearce, Continental, Bowie, Sahuarita, Madera Canyon, Portal, Nogales), New Mexico (Rodeo); Sonora, Mexico (Cocorit, Magdalena, Santa Ana), and Chihuahua, Mexico (near Chihuahua).

Hoplisoides cazieri R. Bohart

Hoplisoides cazieri R. Bohart 1968:288. Holotype ♂, Carr Canyon, Huachuca Mts., Cochise Co., Arizona (NEW YORK).

The three *Hoplisoides* with woolly S-III to VI in the male but no definite carina on S-V are *cazieri, denticulatus,* and *floridicus.* The male of *cazieri* differs from *floridicus* by its much smaller metapleural pit, and by its smaller pleural punctures overall. From *denticulatus* it differs by its more nodose form beneath F-VI–VII. Also, *cazieri* males have no denticle laterally on S-V, whereas *denticulatus* males usually have a perceptible one. Females of the three species are not so easily separated, but characters given in the key should suffice. An interesting feature of both sexes is the partial or complete redness of the metapleuron. This is often associated with a red streak diagonally across the mesopleuron, and an extension of the yellow on T-I.

Distribution records are from Arizona (Huachuca and Chiricahua Mts.), Mexico (Jalisco, Durango, Morelos, Oaxaca, Chiapas), Nicaragua (Chinandega), and Costa Rica (Cañas). I have studied 41 ♂ and 4 ♀.

Hoplisoides confertus (W. Fox)

Gorytes confertus W. Fox 1896:525. Lectotype ♀ (seen) designated by Cresson 1928:47, "Montana" (PHILADELPHIA).

Gorytes imperialensis Bradley 1920:118. Holotype ♂ (seen), Brawley, California (ITHACA). Synonymy by Bohart in Bohart and Menke 1976:320.

The relatively high carina laterally on S-V of the male sets this species apart from its relatives, *carinatus* and *projectus.* In addition the length of the pubescence on S-VI of the male (2 to 3 MOD) is remarkable. The female is difficult to separate from that of *carinatus,* but the partly or all yellow pygidium of the latter is helpful. Females of both species have the metapleural lower pit smaller than is the case with *floridicus.* Also, the extensive red markings of the thorax differentiate *confertus* and *carinatus* from *denticulatus, projectus,* and *cazieri.*

Distribution includes California (eastern and southern), New Mexico (Tornero), Colorado (Hasty, Kit Carson), Texas (Llano Co., Alpine, Canyon, Santa Elena Canyon, Randall Co.), Oklahoma (Buffalo), Kansas (Clay Co., Scott Co., Lakin), "Montana", Nebraska (Chadron), Mexico (Samalayuca, Chihuahua, Saltillo).

Hoplisoides costalis (Cresson)

Gorytes costalis Cresson 1872:225. Holotype ♀ (seen), Texas (CAMBRIDGE).

?*Gorytes knabi* Rohwer 1911:569. Holotype ♂ (seen), Progreso, Yucatan (WASHINGTON).

Tentative new synonym.

Bohart and Menke (1976) listed *pygidialis* as a subspecies of *costalis* but I now consider it to be a valid species based on distribution and markings. At the same time they gave *knabi* species status. An examination of the holotype of *knabi,* kindly sent by A. S. Menke, leads to the doubtful synonymy above. In body structure, including the tiny metapleural lower pit, relatively simple flagellum, stout F-I, wing clouding, black clypeus, and moderately coarse punctation, *knabi* is similar to other males of *costalis* I have seen. However, on the type of *knabi* the yellow band on the metanotum and large yellow area on the propodeum posteriorly, are quite unusual.

Characteristics of *costalis* are a small metapleural lower pit, a short male F-I (about 1.3× as long as broad), a silvery pubescent male clypeus which is often all black, a coarsely punctured propodeum (except enclosure), a moderately punctured T-II, and a long narrow female pygidium (about 2× as long as broad).

The distribution is east of the 100th meridian, from New York to Nebraska and south to Missouri and Florida. Mexican localities are Vera Cruz (Cordoba), Tamaulipas (Sierra Picachoa), and Hidalgo (Actopan). H. *knabi* was from Yucatan (Progreso).

Hoplisoides dentatus (W. Fox)

Gorytes dentatus W. Fox 1893:116. Lectotype ♂ (seen), designated by Cresson

1928:47, Grand Canyon, Arizona (PHILADELPHIA).

The tooth on the lower mesopleuron is the most distinctive feature of this species as well as of *diversus*. Other characters shared by the two species are an extremely narrow metapleuron, an angled male omaulus, a short male F-I but female F-I 3× as long as broad, T-VII usually visible in males. Since both species occur in California, and Baja California Sur, Mexico, they may be conspecific. However, there seems to be a constant difference in markings, so I have kept them separate. Both sexes of *dentatus* have the propodeum red with sometimes a faint yellowish suggestion. Also, females have yellow tergal bands on I–II or rarely I–III. Females of *diversus* have the terga much more extensively yellow. Similarly, males have well formed yellow bands on I to III only.

I have seen 12 ♂ and 10 ♀ from California (Antioch, near Pearblossom, Jacumba), Arizona (near Eloy, near Sentinel), New Mexico (Las Cruces), and Mexico: Baja California Sur (near San Ignacio).

Hoplisoides denticulatus (Packard)

Gorytes denticulatus Packard 1867:430. Holotype ♂ (not female) (seen), "Louisiana" (PHILADELPHIA).

Gorytes barbatulus Handlirsch 1888:408. Syntype ♂, ♀ (studied); ♂, Illinois, Texas (GENEVA), ♀, New Orleans, (ZURICH). Synonymy by Bohart in Bohart and Menke 1976:521.

Gorytes hypenetes Handlirsch 1895:894. Syntype ♂ (seen) "Columb" and "mexicanus Laguaira" (La Guaira, Venezuela?) (BERLIN). **New status.**

I have studied Packard's type. His name apparently referred to the uneven male flagellum rather than to the denticle on S-V, as might be supposed. The species is related to *cazieri* and *floridicus,* both of which have S-III to V in males with woolly pubescence but no carina on S-V. Most males of *denticulatus* have a discernible denticle laterally on S-V. Characteristics of the species are the metapleural lower pit (slightly smaller than a midocellus), black T-II basad of yellow band, mesopleural punctures becoming 2–3 PD apart toward metapleuron. Yellow bands on T-IV–V are usually thin to moderate, but some 5 pair from Vera Cruz, Mexico are extensively yellow on T-IV to VI.

The distribution, based on 80 ♂ in the Bohart Museum collection, is mostly east of the 100th meridian (Florida, Missouri, Georgia, Illinois, Texas, Oklahoma, Nebraska, Colorado). Most Mexican states are represented as well as Costa Rica, El Salvador, and Venezuela.

Hoplisoides diversus (W. Fox)

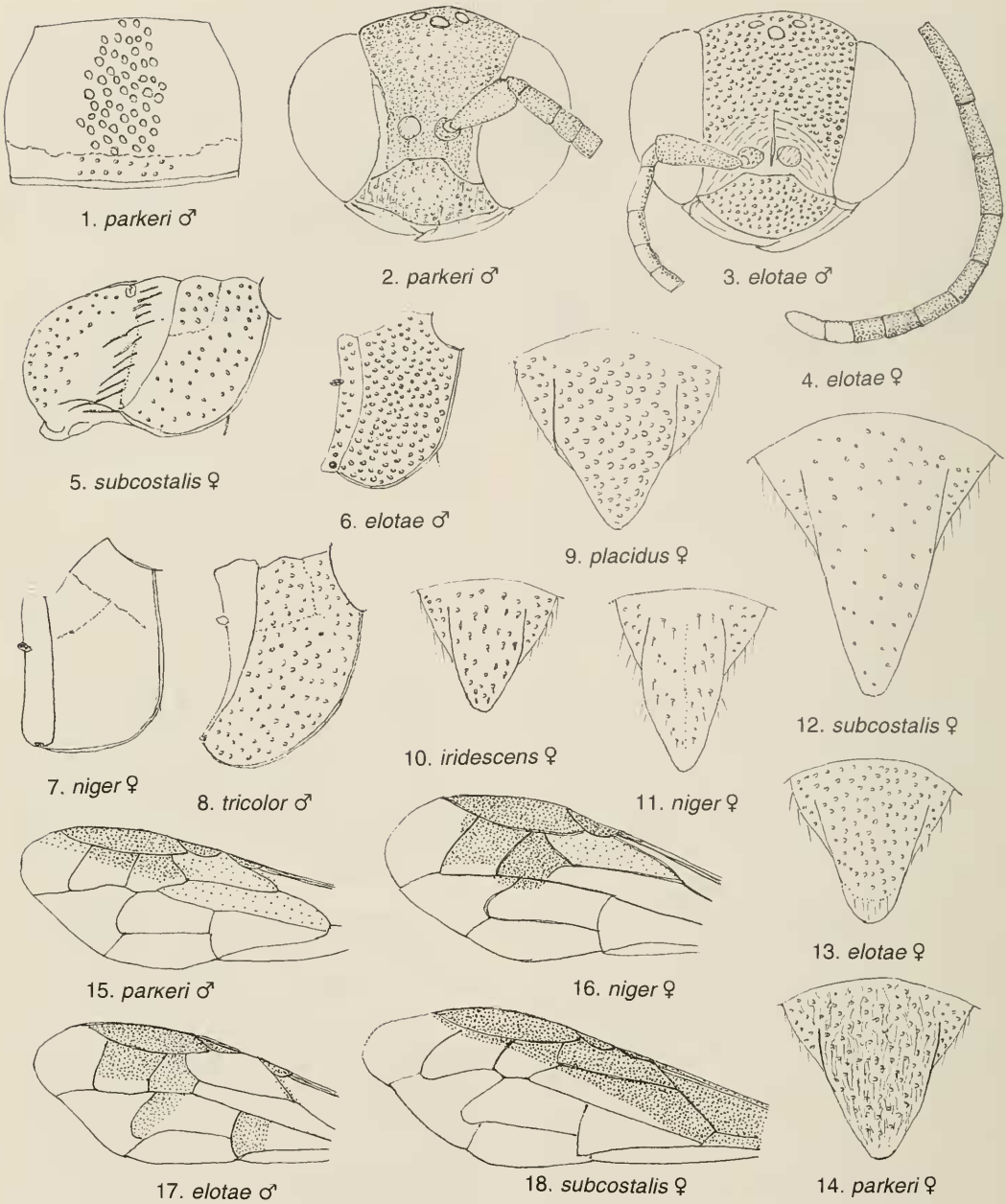
Gorytes diversus W. Fox 1896:527. Syntype ♂, ♀ (seen), Los Angeles, California (WASHINGTON).

See discussion under *dentatus* and characters given in male and female keys.

I have studied 10 ♂ and 4 ♀ from California (Cawelo Jct. in Kern Co., Beaumont, Banning, Magnesia Canyon, 12 mi e. Edison, Jacumba), and Mexico: Baja California Sur (San Angel).

***Hoplisoides elotae* R. Bohart, New Species**
(Figs. 3, 4, 6, 13, 17)

Male holotype.—Length 7.0 mm. Black, marked with yellow as follows: pronotal ridge and lobe, fore- and midtibiae in front, apical band on T-I, broad band on T-II, T-III to VI mostly, apical band on S-II, lateral spots on S-III to V; brownish-red are: antenna in front, mediobasal spot on clypeus; brown are: legs mostly, wing spots as in Fig. 17. Pubescence inconspicuous. Punctation moderately coarse and close on clypeus, frons, vertex, scutum, propodeum, mesopleuron, and metapleuron; sparse on scutellum; punctures 1.0–2.0 PD apart on T-I–II, closer on remaining terga; coarse and close on S-II. Antenna relatively simple, F-I about 2× as long as broad (Fig. 3);



Figs. 1–18. Hoplisoides species. 1, Tergum I, dorsal, punctures shown in medial area only, 25×. 2–3, Head, frontal view, 25×. 4, Flagellum, frontal view 37×. 5, Mesopleuron to propodeum, lateral, 18×. 6–8, Mesopleuron and metapleuron, lateral, 25×. 9–14, Pygidium, 30×. 15–17, Forewing, 8×. 18, Forewing, 12×.

clypeus 2× as broad as long; metapleural lower pit tiny, metapleuron breadth about 1.2× MOD (Fig. 6); T-VI angled at about 70 degrees.

Female.—Length 8 mm. Flagellum more slender, F-I about 4× as long as broad (Fig. 4), F-IX–X white in front (Fig. 4); mediobasal clypeal spot yellow, summit of head yellow all across; legs all brown; pronotum reddish, reddish spots on mesopleuron and

lateroposterior propodeal area; T-I–II partly reddish, T-III to T-VI black laterally; pygidial plate with moderately fine punctation, angled at about 30 degrees (Fig. 13).

Types.—Holotype ♂ (DAVIS), 8 mi se. Elota, Sinaloa, Mexico, V-18–62 (F. D. Parker). Paratypes, 7 ♂, 1 ♀, same data as holotype.

Discussion.—As indicated in the keys, *elotae* is close to *spendidulus* and like that species has a punctate metapleuron. However, *elotae* is a much browner species, and the flagellum is stouter in both sexes.

The specific name is a noun derived from the town of Elota.

Hoplisoides floridicus R. Bohart

Hoplisoides floridicus R. Bohart 1968:289. Holotype ♂, Orlando, Florida (DAVIS).

A relationship to *denticulatus* is indicated by the woolly S-III to V in males. However, *floridicus* differs in several respects in the male. There is no trace of a lateral denticle on S-V, the metapleural lower pit is about as large as the midocellus, and F-VI–VII are nodose beneath. In both sexes the wings are extensively brownish, and the propodeum (except enclosure) is coarsely and closely punctured in posterior view. Some females resemble those of *placidus,* but the bent lateral pygidial carina of the latter is distinctive.

I have seen 7 ♂ and 26 ♀, all from Florida.

Hoplisoides glabratus R. Bohart

Hoplisoides glabratus R. Bohart 1968:291. Holotype ♂, Granite Pass, Hidalgo Co., New Mexico (DAVIS).

This little wasp is uncommonly collected. It is extensively polished and the wings are dark except for the bright yellowish stigma. Both sexes have the thorax and much of the abdomen red. The male has F-I to IV expanded beneath, but especially I and IV. The female frons and antenna are all or nearly all light yellow. Females frequent the undersides of *Bailey pleniradiata* flowers and emerge to snare leafhoppers.

I have studied 15 ♂ and 80 ♀, most which I collected at Granite Pass, New Mexico. Other records include Pearce, Willcox, Douglas, and Portal, Arizona; Deming and San Antonio, New Mexico; Colorado Springs, Colorado; Odessa and Marfa, Texas.

Hoplisoides hamatus (Handlirsch)

Gorytes hamatus Handlirsch 1888:403. Holotype ♂ (seen), "Colorado" (VIENNA).

Gorytes spilographus Handlirsch 1895:895. Holotype ♀ (seen), "Nordamerika" (GENEVA). Synonymy by Bohart in Bohart and Menke 1976:521.

Hoplisoides arizonensis Baker 1907:164. Holotype ♀ (seen), Prescott, Arizona (WASHINGTON). Synonymy by Bohart in Bohart and Menke 1976:521.

Gorytes adornata Bradley 1920:115. Holotype ♀ (seen), Felton, Santa Cruz Mts., California (ITHACA). Synonymy by Bohart in Bohart and Menke 1976:521.

Perhaps the most abundant species in California, *hamatus* is readily recognized by the sharply "beveled" male clypeus, the large oval metapleural lower pit, the discrete spot at the end of the subdiscoidal cell in the female, and the all-black propodeum.

I have studied 160 ♂ and 210 ♀ from almost every county in California from sea level to 8,000 feet in the Sierra. Out-of-state records which suggest wide distribution in western North America are: Garden of the Gods, Colorado; and Palominas and Oak Creek Canyon, Arizona.

Hoplisoides insularis (Cresson)

Harpactus insularis Cresson 1865:146. Holotype ♀, Cuba (HAVANA-II).

Characteristics are the relatively large metapleural lower pit, generally fine punctation, unbanded T-III, female F-I about 2.9× as long as greatest breadth, and sterna as well as pygidium of female red.

I have seen only a ♀ collected in Havana.

Alayo (1969) recorded 5 specimens from various Cuban localities.

Hoplisoides iridipennis (F. Smith)
(Fig. 10)

Gorytes iridipennis F. Smith 1856:363. Holotype ♀ (seen), Santarem, Brazil, (LONDON).

Gorytes fasciatipennis Cameron 1890:75. Holotype ♀ (seen), "N. Yucatan" (LONDON). Synonymy by Bohart in Bohart and Menke 1976:521.

Gorytes maculipennis Cameron 1890:73. Holotype ♀ (seen), Bugaba, Panama (LONDON). **New synonym.**

Gorytes panamensis Maidl and Klima 1939:91. New name for *maculipennis* Cameron 1890, nec Giraud 1861.

Characteristics of this wasp are: small size (about 7 mm long (male) and 8 mm (female)), nearly impunctate and polished pleuron, mostly polished T-II, metapleural lower pit oval and much larger than midocellus, T-I to V yellow banded but II to VI sometimes mostly yellow, pygidial plate well punctured and striatiform in part (Fig. 10), other features are: practically no sulcus below midocellus, mandible yellow toward base, clypeus considerably yellow, forewing costa reddish and stigma yellow, scutum moderately punctate, legs and venter partly yellow, T-III with many punctures 2 to 4 PD apart.

Of the typical sort with narrowly yellow-banded terga, I have seen 9 ♂ and 16 ♀ from Mexico (Vera Cruz, Oaxaca), Nicaragua, El Salvador, Costa Rica, Panama, Ecuador, Venezuela, Suriname, Brazil. The more extensively yellow form are 4 ♂ and 7 ♀ from Mexico (Vera Cruz, Sinaloa, Jalisco, Morelos, Oaxaca, Puebla).

Hoplisoides jaumei (Alayo)

Psammaecius jaumei Alayo 1969:17. Holotype ♀, Rangel, Pinar del Rio, Cuba (HAVANA-I). Transferred to *Hoplisoides* in Bohart and Menke 1976:521.

I do not know this species. It is included in the key on the basis of Alayo's original description of the only known specimen.

Hoplisoides jibacoa (Alayo)

Psammaecius jibacoa Alayo 1969:12. Syntype ♂, ♀, Cuba (HAVANA I).

I know this species only from the original description, and from a male syntype sent to me by Alayo. The male is black and lemon yellow, flagellum and S-III to VI all black, and clypeus finely but closely punctured. The metapleural lower pit is round and about as large as the midocellus.

The species is known only from Cuba, where it is moderately abundant.

***Hoplisoides niger* R. Bohart,**
New Species
(Figs. 7, 11, 16)

Female holotype.—Length 8 mm. Black, marked with yellow as follows: scape in front, strip on lower frons next to eye, broken narrow band at apex of T-II; flagellum dull reddish within; wing cloud as in Fig. 16, costa black, stigma brown. Pubescence moderately appressed on clypeus, inconspicuous elsewhere. Punctation faint on frons, practically absent on polished scutum, pleuron, T-I–II, most of venter; quite fine and sparse on polished T-III to V, scattered and moderate on polished S-II and pygidial plate (Fig. 11). F-I 2.7× as long as broad; sulcus below midocellus well developed and extending one-third of distance to clypeus; forward part of scrobal sulcus two-thirds complete (Fig. 7); metapleuron mostly 1.8× as broad as MOD, metapleural lower pit oval and larger than MOD (Fig. 7), propodeal enclosure with 14 complete carinulae; T-I a little longer than broad, T-II nearly twice as broad as long; pygidial plate twice as long as broad, with a weak longitudinal median ridge (Fig. 11).

Male.—Unknown.

Type.—Holotype ♀ (WASHINGTON), Maricao, Puerto Rico, VI-20-69 (O.S. Flint, Jr.).

Discussion.—The practically impunctate pleuron, large metapleural lower pit, and complete propodeal enclosure carinulae relate this species to *iridipennis*. However, there are many differences. *Hoplisoides niger* is more extensively black and even less punctate, the midocellar sulcus is longer, the scrobal sulcus is more nearly complete, and the pygidial plate is quite different (compare Figs. 10, 11).

The specific name is a noun based on the overall black appearance.

Hoplisoides parkeri R. Bohart, New Species
(Figs. 1, 2, 14, 15)

Holotype male.—Length 7.5 mm. Black, marked with yellow as follows: central spot on clypeus, inner eye margin, apical bands on T-I to V, VI entirely, lateral dots on S-II to V; brownish are: legs, tegula, parategula; forewing with clouds as in Fig. 15. Pubescence inconspicuous, silvery, bloomlike, evident and appressed on clypeus surrounding central spot. Punctation moderate on head, coarse and close on thorax except spaced 1.0 to 3.5 PD on pleuron, coarse and 0.5–1.0 PD apart on terga (Fig. 1) and S-II, finer and more spaced on other sterna. F-I 1.5× as long as broad, F-II to X about as broad as long, F-II to VI somewhat convex beneath, F-VI to X with shiny spots beneath; metapleuron with nearly even breadth of about 1.0 MOD, metapleural lower pit about equal to midocellus, propodeal enclosure with 12 complete longitudinal carinulae, T-I slightly longer than broad, T-VI angled at about 35 degrees.

Female.—Length 8–10 mm., clypeus with more variegated markings and less pubescent than male, yellow bands sometimes present on pronotum and scutellum; pygidium as in Fig. 14.

Types.—Holotype ♂ (DAVIS), 4 mi nw. Choix, Sinaloa, Mexico, VIII-31-68 (T. A. Sears, R. C. Gardner, C. S. Glaser). Paratypes (all from Mexico): 17 ♂, 1 ♀, same data (practically) as holotype; 5 ♂, Puebla (Petlalcingo), VIII-3–63, (F. D. Parker, L. A. Stange); 5 ♂, 1 ♀, Hidalgo (Jacola), VIII-31–60 (Scullen, Bolinger); 6 ♂, Guerrero (near Chilpancingo), VIII-1962 (U. Kansas Exped.); 5 ♂, 1 ♀, Chiapas (20 mi s. Tuxtla Gutierrez), VIII-12–63 (F. D. Parker, L. A. Stange); 4 ♂, 2 ♀, Oaxaca (44 mi w. Tehuantapec), VII-21–52 (E. E. Gilbert, C. D. MacNeil). Also, non-paratypes, 13 ♂, 8 ♀ from various Mexican states including Tamaulipas, Morelos, and Zacatecas. A few specimens from Liberia in Costa Rica and Quezaltepeque in El Salvador are conspecific.

Discussion.—The close and coarse punctation of most of the thorax and abdomen, relatively unmodified male antenna, fairly large metapleural lower pit, basally black mandible, mostly brown legs, clouding over practically all of discoidal cell, and yellow markings of terga increasing toward apex, are characteristic in combination. Yellow markings vary in both sexes. Males may have narrow bands on the pronotum and scutellum. T-I may or may not be all black. Tibiae may be partly yellow.

The species is named for my friend, Frank Parker, who collected much of the type series.

Hoplisoides placidus (F. Smith)
(Fig. 9)

Gorytes placidus F. Smith 1856:368. Syntypes ♂, ♀ (seen), "East Florida" (LONDON).

Gorytes rufipes F. Smith 1856:369. Syntype ♀ (seen), "East Florida" (LONDON). Synonymy by Bohart and Menke 1976: 521.

The dark wings and extensive burnt-red coloration mark this as a typical Floridean wasp. In general it resembles *floridicus,* but the male sternal pubescence and sizable yellow bands on T-III to V of *floridicus* in both sexes are differentiating. Also, the female of *placidus* has the lateral pygidial carinae bent (Fig. 9). Other differences in both sexes of *placidus* are the larger and oval metapleural lower pit and the close,

coarse punctation of the propodeum in posterior view.

I have seen 7 ♂ and 25 ♀, all from Florida.

Hoplisoides placidus nebulosus (Packard)

Gorytes nebulosus Packard 1867:424. Lectotype ♂ (seen), designated by Cresson 1928:48, "New Jersey" (PHILADELPHIA).

Gorytes armatus Provancher 1888:272. Holotype ♀ (seen), Ottawa, Canada (QUEBEC). Synonym by Bohart in Bohart and Menke 1976.521.

Gorytes microcephalus Handlirsch 1888: 405. Syntype ♂ (seen), "Georgia" (GENEVA). Synonymy by Bohart in Bohart and Menke 1976:521.

Goyrtes pergandei Handlirsch 1888:407. Syntype ♂ (seen), "Virginia and Illinois" (GENEVA). Synonymy in Bohart and Menke 1976:521.

Philanthus harringtonii Provancher 1888: 278. Holotype ♀ (seen), Ottawa, Canada (QUEBEC). Synonymy by Bohart in Bohart and Menke 1976:521.

Gorytes birkmanni Baker 1907:166. Holotype ♀ (seen), Fedor, Texas (WASHINGTON). **New status.**

Gorytes pruinosus Baker 1907:166. Holotype ♀ (seen), Fedor, Texas (WASHINGTON). Synonymy by Bohart in Bohart and Menke 1976:521.

Bohart and Menke (1976) treated *nebulosus* as a subspecies of *placidus,* and I am in agreement. Baker's *birkmanni* is an intermediate form with mostly red propodeum but wings less dark than in typical *placidus.* Males of *nebulosus* resemble those of *spilopterus,* and characters given in the key are not always satisfactory for separation. However, the bent pygidial carinae of female *nebulosus* are distinctive. Perhaps males are best separated by geography, *nebulosus* occurring east of the 100th meridian and *spilopterus* west of it.

I excavated 2 ground nests of *nebulosus* near Lake Texoma, Oklahoma. They were provisioned with many membracid nymphs, and a few adults.

I have studied 31 ♂ and 31 ♀ of this subspecies, characterized by the large oval metapleural lower pit, most terga with yellow bands, and lateral carinae of the female pygidium (T-VI) bent, rather than evenly curved (as in Fig. 9). Records cover most of the United States east of the 100th meridian.

Hoplisoides projectus R. Bohart

Hoplisoides projectus R. Bohart 1968:290. Holotype ♂, Los Banos, Merced Co., California (SAN FRANCISCO).

This species is known only from the type series, 4 ♂ and a ♀ (DAVIS), all except holotype from the San Joaquin Valley, California. It is related to *carinatus* but the eyes are farther apart in *projectus,* the mesopleural punctation finer and more spaced, and the female pygidium much more closely and rugosely punctured.

Hoplisoides punctifrons (Cameron)

Gorytes punctifrons Cameron 1890:74. Holotype ♂ (not female) (seen), Presidio, Texas (orig. "Mexico") (LONDON).

Gorytes gulielmi Viereck 1908:408. Holotype ♂ (not female) (seen), Bill Williams Fork, Arizona (LAWRENCE). Synonymy by Bohart and Menke 1976:521.

The male is somewhat like *hamatus* but *punctifrons* has the clypeus "beveled" only laterally, and the legs are more extensively red. Both species have a relatively large metapleural lower pit. The female, like *hamatus* and *spilopterus,* has a discrete dark spot at the end of the subdiscoidal cell in the forewing. However, in *punctifrons,* T-II is extensively red, and T-III to V are all black, or with remnants of bands at most. Also, the metapleural lower pit is round rather than oval as in *spilopterus.*

I have studied 67 ♂ and 60 ♀ of this relatively abundant species. The distribution covers most of the United States west of the 100th meridian. I have also seen

specimens from Mexico: Sonora (Hermosillo, Magdalena) and Jalisco (Choix).

Hoplisoides pygidialis (W. Fox), NEW STATUS

Gorytes pygidialis W. Fox 1896:528. Holotype ♀ (seen), "Montana" (PHILADELPHIA).

Bohart and Menke (1976) treated *pygidialis* as a subspecies of *costalis*. I am raising it to species status since the distributions are separate, and both sexes of *pygidialis* are readily distinguished by the extensive yellow posterad on the abdomen. Also, female *pygidialis* have the pygidial plate less narrow, rather evenly expanded.

The distribution, at least in the United States, is west of the 100th meridian. The 27 ♂ and 33 ♀ studied are from: North Dakota (Slope Co.), Montana, Utah (St. George, Delta), Colorado (Palisade), New Mexico (Rodeo, Mesilla Park, Hot Springs), Arizona (Flagstaff, Portal, Bowie, Tucson, Grand Canyon, Chandler, Sedona, Nogales), California (Blythe, Ripley, Bard, Duncan, Warner Springs, Scissors Crossing, Marinette). Mexican records are: Nayarit (San Blas), Morelos (Alpuyaca), Hidalgo (Pachuca), Durango (Durango), Guerrero (Acapulco), Oaxaca (Mitla), Sinaloa (Elota, Choix), Chiapas (Tuxtla Gutierrez), Yucatan (Progreso).

Hoplisoides semipunctatus (Taschenberg)

Hoplisus semipunctatus Taschenberg 1875: 367. Holotype ♀, Mendoza, Argentina (HALLE).

It appears likely that *semipunctatus* is a South American species which has been introduced into southeastern U.S. presumably by airplane, since collections have been made near airfields. I collected females at La Cienega, Catamarca, Argentina in 1975. The main female characteristics are the nearly impunctate mesopleuron, smooth propodeal enclosure, finely punctate T-II, metapleural lower pit about as large as the midocellus, and metanotum (as well as scutellum) yellow.

Of the 33 ♀ I have studied, 8 are from Argentina (Rio Negro, Santa Fe, Cordova, Catamarca), 4 are from Brazil (Nova Teutonia, Catarina) and the others are from southern U.S. as follows: 4 from Alabama (Decator), 1 from Louisiana (Baton Rouge), 1 from South Carolina (Columbia), 1 from Mississippi (Gulfport), and 14 from Florida (Quincy, Escambia Co., Archbold Reserve).

Hoplisoides spilopterus (Handlirsch)

Gorytes spilopterus Handlirsch 1888:414. Syntype ♀ (seen), "Nevada" (VIENNA).
Gorytes pogonodes Bradley 1920:114. Holotype ♂ (seen), Lemon Cove, Tulare Co., California (ITHACA). Synonymy by Bohart and Menke 1976:521.

This abundant species in western U.S. is recognized by the relatively large and oval metapleural lower pit, the subdiscoidal cell in the female with a discrete apical spot, the mostly red propodeum (except enclosure) in the female, T-I to IV (at least) pale banded, male clypeus "beveled" but not sharply, and clear membrane of submarginal cell I, discoidal cell I, and medial cell. Males in California have the legs mostly black and yellow. Those from other western states usually have them partly red.

I have studied 70 ♂ and 90 ♀. The distribution is widespread in California at low to moderate altitudes. Records are also from Arizona, Idaho, Nevada, Utah, Wyoming, Colorado, and New Mexico, all west of the 100th meridian.

Hoplisoides splendidulus (Bradley)

Gorytes splendidula Bradley 1920:113. Holotype ♂ (seen), Brawley, California. (ITHACA).

This elegant species, with its long, slender antennae, punctured metapleuron, sharply delineated wing clouds (including a definite one in both sexes apically in the subdiscoidal cell), bloomlike pubescence on T-V, and small metapleural lower pit, are

all characteristic of the similar species, *elotae*. There are a number of color differences such as in *splendidulus* the much more extensive red coloration, the all dark red T-IV–V, and the red (or yellow) frons. More important is the more slender flagellum in *splendidulus*. For example, F-IV is 1.8× (male) to 2.8× (female) as long as broad. In *elotae,* F-IV is 1.4× (male) to 1.8× (female) as long as broad.

I have studied 13 ♂ and 11 ♀ from Texas (Starr Co., Ward Co.), New Mexico (Las Cruces), Arizona (Tucson, Prescott, Grand Canyon, Yuma Co.), Utah (Nephi), Oregon (Antelope Mt., Harney Co.), California (Jacumba, Warner Springs, Brawley, Laguna Canyon, Antelope Springs, Johnsville, Tesla, Napa Co., San Diego Co., Blythe), and Mexico: Baja California Sur (San Vincente).

Hoplisoides subcostalis R. Bohart, New Species
(Figs. 5, 12, 18)

Holotype female.—Length 10 mm. Black, with yellow markings as follows: F-I to V within, scape in front, mandible toward base, clypeus partly, frons laterally, narrow band on pronotal ridge, lobe partly, narrow posterior band on scutellum, fore- and midtibiae and tarsi partly, faint apices of T-II to IV; reddish brown are: flagellum toward apex, legs mostly; pygidium dark red; forewing black across entire front (Fig. 18). Pubescence inconspicuous. Punctation practically absent on frons, moderate and 1-2 PD apart on scutum, mostly fine and widely spaced on mesopleuron, absent toward base of propodeal side, moderately coarse and close on propodeum posteriorly, fine and widely spaced on T-I–II, increasingly closer on T-III to V, coarse and moderately close on pygidium. Mandible gently curved and moderately stout (as compared with stouter one of *costalis*), posterior metapleural margin undefined but followed by a series of diagonal carinae at propodeal base (Fig. 5). Metapleural lower pit tiny; propodeal enclosure completely carinulate; forebasitarsus posteriorly black, T-I about as long as broad, T-II about 1.3× as broad as long, pygidial plate narrow overall but expanding evenly above (Fig. 12).

Male.—Unknown.

Types.—Holotype ♀ (WASHINGTON), Barro Colorado, Canal Zone, Panama, III-15–67 (R. D. Akre). Paratype, ♀ (DAVIS), topotype, IV-6–63 (C. & M. Rettenmeyer).

Discussion.—This species is related to *costalis* on the characters of the clypeal conformation, relatively large size, small metapleural lower pit, and narrow pygidial plate. On the other hand, it differs by the finer punctation of the pleuron, T-I–II, and the frons, but especially by the black anterior one-third of the forewing. The more slender mandible in *subcostalis* is also different.

Hoplisoides tricolor (Cresson)
(Fig. 8)

Gorytes tricolor Cresson 1868:380. Holotype ♀ (seen), New Mexico (PHILADELPHIA).

Gorytes helianthi Rohwer 1911:569. Holotype ♀ (seen), Boulder, Colorado (WASHINGTON). Synonymy in Bohart and Menke 1976:521.

Hoplisus rufocaudatus Mickel 1916:401. Holotype ♀ (seen), Mitchel, Nebraska (LINCOLN). Synonymy in Bohart and Menke 1976:521.

This species is characterized by the extensively red markings, especially on the legs, propodeum, and T-I (rare exceptions). Otherwise, the small lower pit at the bottom of a tapering metapleuron (Fig. 8), dark-red last two or three terga, usually exposed T-VII in the male, extensively clouded subdiscoidal cell, and broadly yellow female frons are more critical characters.

I have studied 53 ♂ and 27 ♀ from Texas (Llano Co.), Wyoming (Grand Teton Park), Colorado (Palisades, Hasty, Pueblo), New Mexico (Lordsburg, White Sands Monument, Rodeo, Correo, Granite Gap, Tucumcari, near Deming), Utah (Delta, Cor-

nish, Salt Lake City, W. Utah Lake, Logan), Arizona (Toltec, Eloy, Willcox, Portal, Animas, Tucson, Huachuca Mts.), California (Westmorland, Tracy, Warner Springs, Elizabeth Canyon in Los Angeles Co.), Mexico: Sonora (Alamos), Sinaloa (Mazatlan, Choix), Nueva Leon (Apodaca), Coahuila (Saltillo). Except for Llano Co., Texas (99°), all of the United States localities are west of the 100th meridian.

Hoplisoides vespoides (F. Smith)

Gorytes vespoides F. Smith 1873:407. Holotype ♀ (seen), Ega (now Tefé), Brazil (LONDON).

Gorytes robustus Handlirsch 1888:380. Syntype ♀ (seen), Blumenau, Brazil (VIENNA); Tampico, Mexico (GENEVA). Synonymy by Bohart in Bohart and Menke 1976:521.

Icuma sericea Cameron 1905:21. Syntype ♀ (seen), "Panama" (LONDON). Synonymy by Bohart in Bohart and Menke 1976:521.

Gorytes auropilosellus Cameron 1912:430. Holotype ♀ (seen), "British Guiana" (LONDON). Synonym by Bohart in Bohart and Menke 1976:521.

Hoplisoides umbonicida Pate 1941:1. Holotype ♀ (seen), Caura Valley, Trinidad. (PHILADELPHIA). Callan (1976:332) suggested the synonymy. **New synonym.**

This is one of the largest species of *Hoplisoides,* females often with length of 12–13 mm. The females are robust, and most of them have T-I dark, T-II to V with apical yellow bands. Species characteristics are the relatively large oval metapleural lower pit, weak and isolated mesopleural punctures, extensive reddish brown wing coloration, becoming darker apically, T-II about 2× as broad as long, pygidial plate of female nearly 2× as long as broad, and propodeal enclosure with at least 20 carinulae but without distinct lateral boundaries.

I have studied 7 ♂ and 15 ♀ from Mexico: Chiapas (Tuxtla Gutierrez), Nayarit (near Tepic), Morelos (Alpuyeca, Cuernavaca, Lake Tequesquitengo), Guerrero (Chilpancingo), Yucatan (Chichen Itza). Specimens seen from other countries are: Guatemala (Lake Amatitlan), El Salvador (Los Charros), Panama (Potrerillos, Frejoles Canal), Ecuador (Azuay Prov., Limoncocha), Trinidad (Mundo Nuevo), Suriname (Paramaribo), Peru (Colonia Ferane), Brazil (Obidos in Pará, Itatiaya, Nova Teutonia).

Two ♀ in the collection are pinned with their prey, membracid adults, which must outweigh them.

Hoplisoides xerophilus Alayo

Psammaecius confusus Alayo 1969:14. Syntype ♂, ♀, Cuba (HAVANA I). Preocc. by Dutt 1922.

Hoplisoides xerophilus Alayo 1976:29. New name for *confusus* Alayo.

This species is known to me only by a male syntype sent by Alayo. The relatively large metapleural lower pit, completely carinulate propodeal enclosure, and unbanded T-III are distinctive in combination. The moderately punctured pleuron and T-II, particularly in the female as pictured by Alayo (1969), are additional characters. According to Alayo (1969), the species is fairly common in coastal localities of Cuba at flowers of *Coccolaba unifera.*

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